

Twin Lakes Reservoir No. 1
At the head of Big Goose Creek
Big Horn National Forest
Sheridan vicinity
Sheridan County
Wyoming

HAER No. WY-52

HAER
WYO
17-SHER.V
2-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Rocky Mountain Regional Office
U. S. Department of the Interior
P.O. Box 25287
Denver, Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD

Twin Lakes Reservoir No. 1

HAER No. WY-52

HAER
WYO
17-SHER.V,
2-

Location: At the head of Big Goose Creek, Big Horn National Forest
Sheridan vicinity, Sheridan County, Wyoming

S-1/2/NW/NE/SW, SE/NE/NW/SW, N-1/2/SW/NE/SW, SE/NW/SW Section
35, T54N-R87W

UTM: A.13/316830/491960
B.13/316860/4941840
C.13/316500/491730
D.13/316470/4941850

Quad: Dome Lake, Wyoming 7.5 (1964)

Date of Construction: 1936-1937

Present Owner: City of Sheridan, Wyoming

Present Use: Water supply for the city of Sheridan

Significance: The Twin Lakes Reservoir is associated with President Franklin D. Roosevelt's New Deal program for industrial relief and unemployment relief. The reservoir was constructed by the Public Works Administration (PWA) for the city of Sheridan. The reservoir features hand-laid riprap on the earthen dam face and north shoreline. The dam, intake structure, outlet structure, and control house retain excellent physical integrity. The mountainous setting of the reservoir has remained virtually unchanged since construction.

Project Information: The existing dam structure will be raised and covered with new materials to increase the water holding capacity of the reservoir for the city of Sheridan. The approved mitigation plan for this National Register-eligible site consists of recording by the Historic American Engineering Record prior to construction.

Prepared by: Robert Rosenberg
Rosenberg Historical Consultants
739 Crow Creek Road
Cheyenne, Wyoming 82009

July 1992

HISTORY

A. TWIN LAKES AREA

Twin Lakes Reservoir No. 1 is located in an isolated area of the northern Bighorn Mountains that remained roadless into the last decade of the 19th century. Therefore, it was inaccessible to all but the most determined travelers. There were two chief stimuli to the development of the region, both occurring in the 1890s. The first was the discovery of gold deposits, most notably at Bald Mountain and also at Walker's Prairie, which was in closer proximity to the future site of the reservoir. As a result of these discoveries, toll roads were constructed to each area from Sheridan to haul freight and supplies. Neither of these strikes proved to be lasting commercial deposits, and the mines were generally abandoned by 1900. However, two roads now penetrated the northern Bighorn Mountains from the east. The second stimulus to development was the arrival of the Chicago, Burlington and Quincy Railroad at Sheridan in 1892. With the arrival of the railroad, local entrepreneurs began to exploit the potential for tourism, as wealthy midwesterners now had access to this vast playground by rail.

In 1893, Edward Gillette, T.T. Howd, and H.A. Coffeen formed the Dome Lake Investment Company and purchased a tract of land around Dome Lake (about one mile southeast of Twin Lakes). By August 1895, they had opened a resort with a clientele mainly composed of wealthy Omaha business families, a result of Edward Gillette's railroad and mining contacts. Word soon spread among Omaha social circles that the Dome Lake resort was the place to be and its future was assured. Originally, the area could be reached only by pack trail, so in 1893 a road was constructed from the Town of Big Horn via a steep switch-backing route known as the Red Grade Road. The road not only provided access to the Dome Lake Resort, but was extended over the divide into the Bighorn Basin. [1] Thereafter, this portion of the Bighorn Mountains was accessible via the Red Grade Road and other secondary roads that gradually developed.

During the same time period, the U.S. Congress passed the Forest Reserve Act of 1891 in order to preserve federally owned forest lands in the United States. This action had been promoted by the American Forestry Association and the Division of Forestry, which had been created within the Department of Agriculture in 1876. Acting on the measure, President Benjamin Harrison set aside from settlement over 2.5 million acres of forest lands in Colorado and Wyoming. President Grover Cleveland followed by setting aside over 21,000,000

acres of forest reserves, and the Act of June 4, 1897, established a system of managing these huge reserves. [2] By Executive Order, dated February 22, 1897, the boundaries of the Bighorn National Forest Reserve were defined. The lands that comprise the Twin Lakes area became a part of that forest.

On July 25, 1906, Edward Gillette filed an application to construct dams at Twin Lakes known as Twin Lakes No. 1 Reservoir and No. 2 Reservoir. The object was to increase the amount of water held in these natural lakes, which Gillette wanted to use for the irrigation of lands on the prairie below. The application was approved by the Commissioner of the General Land Office on March 18, 1907. Under the terms of the application, construction had to begin within ten months and be completed within five years. However, it does not appear that Gillette ever began work on the dams, and his grant was relinquished on July 29, 1915. [3]

Livestock grazing was the chief activity that occurred in the vicinity of Twin Lakes in the early twentieth century. Grazing was unregulated prior to the formation of the forest, but was mainly restricted to the southern Bighorns and the Buffalo area. It was not until 1899 that grazing permits were first required in an attempt to regulate the number of cattle and sheep grazing on the forest. In 1900, the permit system was more fully instituted, and 4,877 cattle and 187,500 sheep grazed on the forest. At first there was little attempt to evenly distribute the animals across the available range, and overgrazing occurred along the drainage areas. The flocks of sheep tended to move upward in elevation with the snowmelt, descending in the fall. This system provided about five to six months of grazing in the forest. [4]

In 1902, separate grazing units were instituted for cattle and sheep in an attempt to reduce the hostilities between cattlemen and sheepmen. A detailed study was conducted by Professor John G. Jack in 1900, which analyzed the conditions of the forest range. As a result, the total number of grazing animals was sharply reduced between 1902 and 1906 to improve the range that had been badly overgrazed prior to regulation. Unfortunately, this increased pressure on public lands outside the forest boundaries for which there were no grazing regulations, resulting in irrevocable damage to ecosystems in the Bighorn Basin. [5]

When administration of the Bighorn Forest Reserve was changed to the U.S. Forest Service (under the Department of Agriculture) in 1905, grazing policy was altered to favor the small rancher with lands contiguous to the forest. Itinerant

herds were barred from the forest and grazing fees were instituted. While the number of cattle and horses grazing on the forest remained fairly consistent through World War I, the number of sheep more than doubled from 55,162 in 1906 to 112,756 in 1918. During this time period, a large number of improvements were made on the forest, including drift fences and corrals to facilitate the management of livestock. [6]

In the 1910s, there were two livestock driveways penetrating the Twin Lakes area from the northeast, known as the Walker Prairie Sheep Driveway and the Big Horn Sheep Driveway. The former probably used the old toll road up Soldier Creek to Walker Prairie. The latter used the Red Grade Road from Big Horn, and the two routes intersected near Sawmill Lakes (one mile northeast of Twin Lakes). The combined driveways continued west then northwest along the crest of the divide along the Sheridan and Big Horn county line.

By 1913, forest grazing maps depicted two large grazing units designated as Unit Nos. 3 and 6, or the Walker Prairie and Big Goose Units. These units began in the Stull Lakes area on the west and extended northeastward across the Red Grade Road (or Big Horn-Woodrock Road) to the forest boundary. The Twin Lakes area was included within the Walker Prairie Unit. The area between Stull Lakes and the divide on the west was described on grazing maps as "barren and inaccessible." Sometime in the early to mid-1920s, a new grazing district was formed between Stull Lakes and the divide to the west and was designated Unit No. 4. These units and designations remained essentially unchanged throughout the remainder of the 1920s and 1930s. By the 1930s, the grazing units in the Twin Lakes area were generally restricted to sheep.

B. TWIN LAKES RESERVOIR

The construction of Twin Lakes Reservoir No. 1 was only a portion of a large scale water project for the City of Sheridan, Wyoming. This project was built in 1936-1937 by the Public Works Administration (PWA Project No. WYO-1026-R) to augment the City of Sheridan water supply during the summer months. The plans for the entire project were drawn by Daniel J. McQuaid Engineering Service, Denver, Colorado, and Sheridan, Wyoming, to PWA standards and approved by the Federal Emergency Administration of Public Works. The PWA provided a 45 per cent grant, and the City of Sheridan floated a \$440,000 bond issue for its part of the project. McQuaid became the chief engineer in charge of the project. The estimated cost of the entire system was \$473,000. The results

of the bids for the majority of the system components were announced on May 1, 1936. The system included a filtration plant constructed by Basil Dean, a Sheridan contractor, for \$58,638.80; the laying of 80,000 feet of 16-inch gravity flow water line between the filter beds and the reservoirs above the city constructed by the Olson Manufacturing Company, Boise, Idaho, for \$88,638.04; the construction of two 1,000,000-gallon reinforced concrete water storage reservoirs, two new 750,000-gallon reinforced concrete water storage reservoirs, and the repair of four existing reservoirs by the J.E. Crum Company, Casper, Wyoming, for \$112,247; the building of a gravity flow line (a 16-inch reducing to a 12-inch line) from the north reservoir into the city's distribution system and a new grid system of 10-inch mains radiating out from the gravity lines; and the rebuilding of certain parts of the existing gravity line between the intake and the storage reservoirs near the city. The Barnett and Record Company of Omaha, Nebraska, constructed both of these sections for \$35,318. Some of the materials were supplied by local firms, including the Pioneer Lumber Company of Sheridan and the Sheridan Iron Works, Inc. Bids for the construction of the mountain reservoir at Twin Lakes could not be accepted at the time because an inspection of the site could not be made due to weather [7].

The construction of a 70-foot high standpipe was begun in May 1936 by the Pittsburgh-Des Moines Steel Company. The standpipe had a capacity of 300,000 gallons of water and was 28 feet in diameter. The purpose of the standpipe was to equalize the pressure on the east side of the city and insure a water supply if the connecting pipeline links were damaged or ruptured by flooding. [8]

By mid-May weather conditions allowed M.C. Hinderleider, a consulting engineer hired by the City of Sheridan, to conduct a geological survey of the Twin Lakes reservoir site. Hinderleider was accompanied by Daniel J. McQuaid, who had workers onsite digging test pits in preparation for drawing up plans and specifications for the reservoir. [9]

Dr. Samuel H. Knight, professor of geology at the University of Wyoming, also visited the site and reported that "We have concluded that the dam site is adequate to support an earth-filled dam that will impound 1,300 acre feet of water." McQuaid stated that when the pipeline was completed from the dam to the city, it would hold enough water to supply the City of Sheridan for ninety days at its peak load. Other reservoir sites had been inspected, including Twin Lakes Reservoir No. 2 and Dome Lake, but Twin Lakes No. 1 Reservoir was finally chosen. A construction camp was established at Dry Camp on

the Dome Lake Road, and a one and one-half mile road was surveyed to the reservoir site. The cost of the reservoir, along with the road and a bridge over Big Goose Creek, was estimated at \$60,000. The main purpose of the reservoir was to act as a reserve to augment the direct flow of city water from Big Goose Creek. It would impound only flood water, and would not interfere with the normal flow of the stream. [10]

Bids for the construction of the Twin Lakes Reservoir and a small concrete diversion dam on Big Goose Creek at the mouth of the canyon were not let until late July 1936. The Northwest Engineering Company of Rapid City, South Dakota, received the contract for the construction of the Twin Lakes Reservoir and had most of its equipment at the site by late August. [11]

Altogether, the Sheridan waterworks system employed a work force of about 400 men. The majority of the laborers were chosen from lists maintained by the Sheridan Office of the Re-employment Service, another New Deal agency whose function was to act as a job finding service for the unemployed. The Northwestern Engineering Company maintained a work force of forty-two men at Twin Lakes. [12]

Construction of the reservoir was halted during the winter months and did not resume until late spring of 1937. Finally, in October 1937, it was reported that construction was nearing completion. The dirt work on the dam had been completed and the riprapping was being put in place. PWA engineers had been notified and were to inspect the completed facilities.

On October 14, 1937, the Twin Lakes Reservoir No. 1 was inspected by Robert Morris, traveling engineer for the regional PWA office at Denver; R.K. Morrell, Superintendent of the Northwestern Engineering Company; Lin Doane, Inspection Engineer; D.A. Ruff, City Commissioner; Paul Anderson, City Engineer; and Sheridan Mayor Robert W. Orr. The party declared the dam to be complete and ready for service. [13]

The PWA was a major part of President Franklin D. Roosevelt's New Deal and was enacted by the Hundred Days Emergency Congress in 1933. It was intended for industrial relief and unemployment relief. The agency was headed by Harold L. Ickes, the Secretary of the Interior. Long range recovery was the principal goal of the agency, and during its lifetime over four billion dollars were spent on 34,000 projects, including public buildings (especially schools), highways, parkways, and dams. Perhaps the most notable

project was the building of the Grand Coulee Dam on the Columbia River. [14]

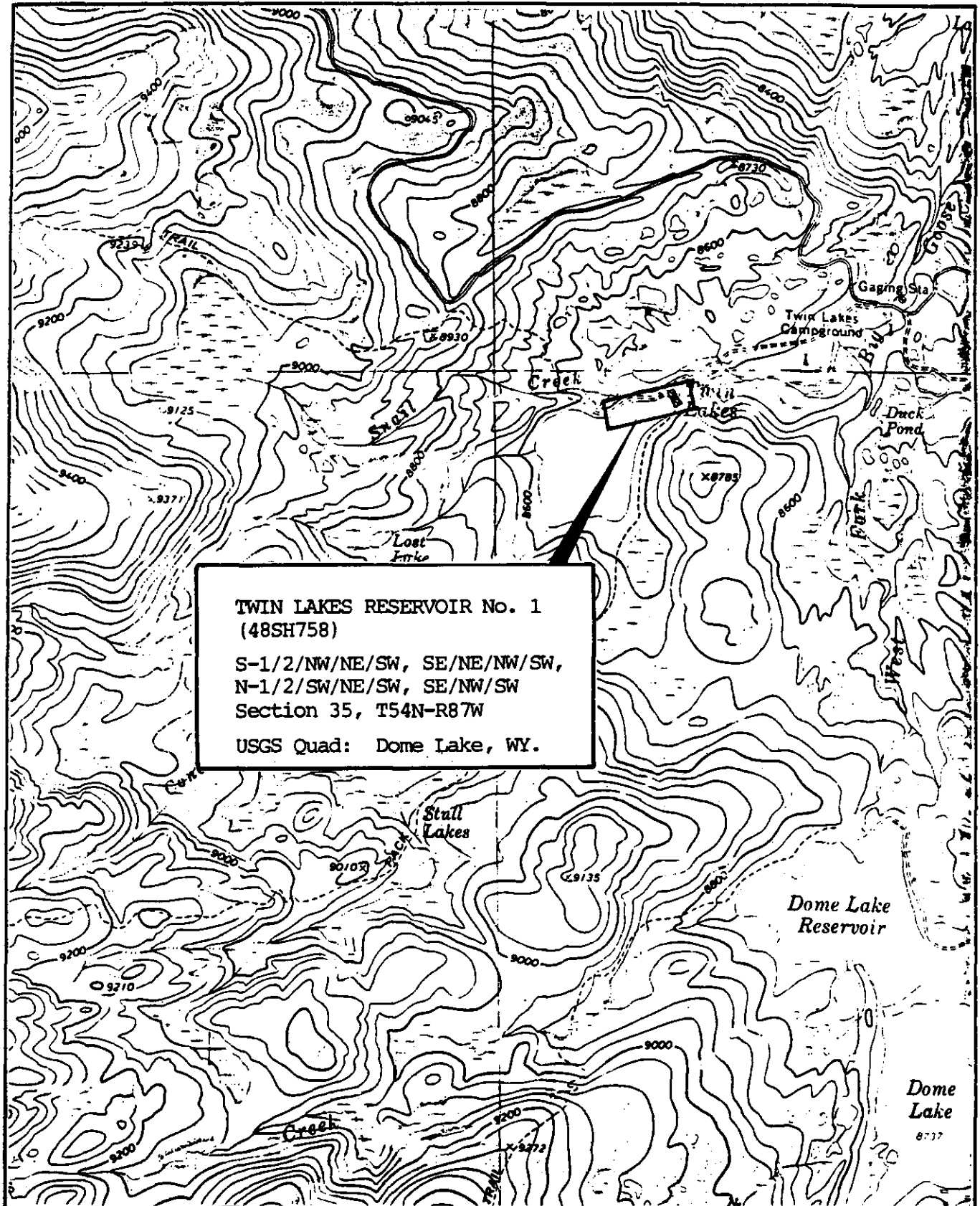
CURRENT PHYSICAL DESCRIPTION

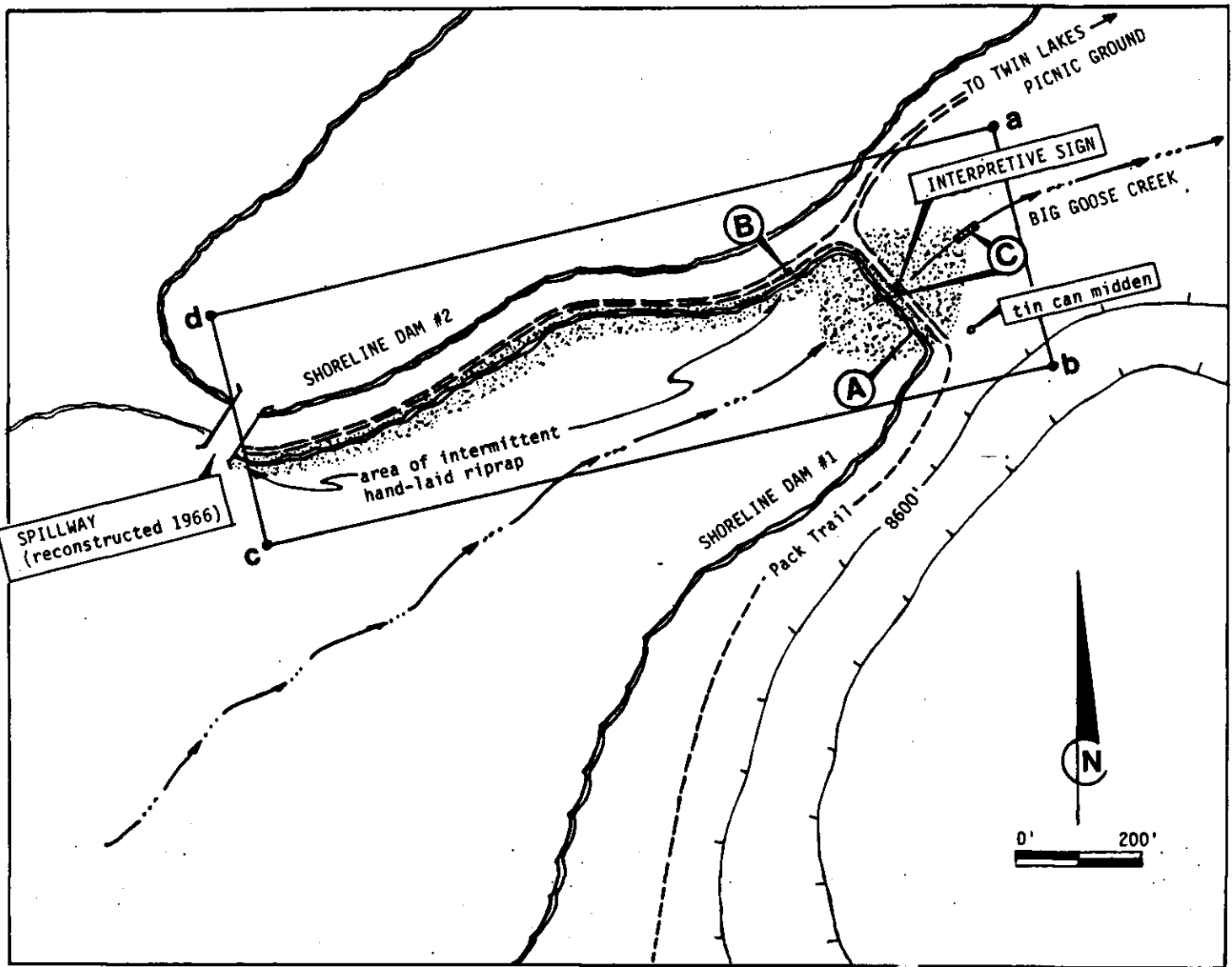
The Twin Lakes Reservoir No. 1 consists of an earthen dam constructed on a natural lake at the head of Big Goose Creek on the upper east slope of the northern Bighorn Mountains. The site is at an elevation of 8,539 feet. The manmade portions of the reservoir consist of the dam and associated riprap that lines the upstream side of the dam and the north shore from the dam to the spillway, the control house, and the intake (submerged) and outlet structures.

ENDNOTES

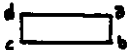



1. James F. Connor, History of the Bighorn National Forest and the Vicinity. Unpublished typewritten manuscript (Cheyenne, Wyoming State Library, 1940), pp. 80-81); Robert A. Murray, Multiple Use in the Big Horns: The Story of the Bighorn National Forest (3 Vols.). (Report on file at Wyoming SHPO, Cheyenne, 1980), pp.125-126, 133-134.
2. Murray, Multiple Use in the Big Horns, pp. 138-139.
3. Bighorn National Forest, Twin Lakes Files, Historical Files (Sheridan: Supervisor's Office, Bighorn National Forest).
4. Scott C. Schermer and Virginia Gnabasik, Level I Historic Cultural Resources Inventory of the Bighorn National Forest, Wyoming. (Portales, New Mexico: Eastern New Mexico University, Portales; report on file at the Wyoming SHPO, Cheyenne, 1979), p. 56.
5. Murray, Multiple Use in the Big Horns, pp. 147-150.
6. Ibid., pp. 208-209.
7. Sheridan Press, Sheridan, Wyoming, 5/1, 6/11/1936.
8. Sheridan Press, 5/5/1936.
9. Sheridan Press, 5/17/1936.
10. Sheridan Press, 5/22/1936; 10/7, 10/17/1937.
11. Sheridan Press, 7/26, 8/28/1936.

12. Sheridan Press, 9/20, 9/27/1936.
13. Sheridan Press, 10/17/1937.
14. William E. Leuchtenburg, Frenklin D. Roosevelt and the New Deal, 1932-1940 (New York: Harper & Row, 1963); Richard S. Kirkendall, The United States, 1939-1945: The Years of Crisis and Change (New York: McGraw-Hill Book Company, 1974).





Site Map: TWIN LAKES RESERVOIR NO. 1 (48SH758)

-  Site boundary and UTM points
- A. Dam structure
- B. Valve control house
- C. Intake structure 
Outlet structure 
- D. Gravel road 
hand-laid riprap 